

IX.3.5B-WPRDD,WPRDDF SUBROUTINES WPRDD AND WPRDDF

Description

Subroutine WPRDD writes regular or mixed time series data to the Processed Data Base.

Subroutine WPRDDF writes future time series data.

The time series must have been created with routine WPRDDH.

Calling Sequence

CALL WPRDD (ITSID, ITYPE, JHOUR, ITMINT, NUMPD, IUNITS, NVALS, LTSDAT, TSDAT, IFPTR, ICALL, LIWORK, IWORK, IREC, ISTAT)

CALL WPRDDF (ITSID, ITYPE, JHOUR, ITMINT, NUMPD, IUNITS, NVALS, LTSDAT, TSDAT, LIWORK, IWORK, IREC, ISTAT)

<u>Argument</u>	<u>Input/ Output</u>	<u>Type</u>	<u>Dimension</u>	<u>Description</u>
ITSID	Input	A8	1	Time series identifier
ITYPE	Input	A4	1	Data type code
JHOUR	Input	I*4	1	Julian hour of first time period with data
ITMINT	Input	I*4	1	Data time interval
NUMPD	Input	I*4	1	Number of time periods of data
IUNITS	Input	A4	1	Data units code <u>1</u> /
NVALS	Input	I*4	1	Number of data values in array TSDAT
LSTDAT	Input	I*4	1	Dimension of array TSDAT
TSDAT	Input	R*4	LTSDAT	Time series data array <u>2</u> /
IFPTR	Input	I*4	1	Julian hour of first time period with future data
ICALL	Input	I*4	1	Indicator specifying which components are writing the data: 0 = Preprocessor Function 1 = Forecast Component
LIWORK	Input	I*4	1	Dimension of array IWORK <u>3</u> /

<u>Argument</u>	<u>Input/ Output</u>	<u>Type</u>	<u>Dimension</u>	<u>Description</u>
IWORK	Input	I*4	LIWORK	Work array
IREC	Both	I*4	1	Input - record number of time series header record in file (zero if unknown) Output - record number of next time series header record of the same data type
ISTAT	Output	I*4	1	Status code: 0 = normal return 1 = time series not found 2 = NUNPD larger than maximum time periods allowed - time series truncated and written or too many future days - time series truncated to preserve minimum number of days of observed data and time series written 3 = specified data time interval is not the same as the time series data time interval 4 = invalid write by calling routine (i.e., Forecast Component cannot write over Preprocessor time series and vice versa) 5 = file read/write error 6 = number of values per time step is different in file 7 = minimum number of days of observed data cannot be preserved - time series not written 8 = either NUNPD or NVALS is zero 9 = invalid units conversion 10 = array IWORK too small 11 = invalid hour requested 12 = array TSDAT too small

Notes:

1/ If the data units code passed to the routine differs from the units of the data in the time series then the data will be converted before being written. If the units to which the data are to be converted are not allowed the appropriate status code set and the data will not be written.

- 2/ To write missing data symbols use the value -999.
- 3/ A description of how to size the work array can be found in section IX.3.5A.

Processing Logic

If a positive value of IREC is input then this routine tries to write to the record location specified by IREC. If it is not the desired time series, the routine uses the hashing algorithm to locate the record. If IREC is less than or equal to zero then this routine checks the next sequential time series of the same data type to see if it is the desired time series. The record number is found by checking the in core buffer for the most recently accessed time series of the desired data type. If it is not the desired time series, the routine uses the hashing algorithm to locate the record from the index file. The time series is read and then updated.

The following is a description of the processing logic:

1. Checks for valid future hour and starting hour.
 - o If time series contains mixed regular and future data:
 - o future hour must equal zero (no future data)
or
 - o future hour must be greater than or equal to starting hour
and
future hour must be less than ending hour of data being written
 - o If time series contains only regular or only future data:
 - o future hour must be same as starting hour writing to future time series
 - o future hour must be zero when writing to regular time series
2. Checks for minimum number of observed days of data to be kept (MINDAY). Only records containing mixed regular and future data are checked.
 - o If existing observed data will be replaced by future data for the same time period and MINDAY days of data cannot be maintained, the write is not allowed. If MINDAY of regular data are not currently in the record, future data may be written as long as the number of values of regular data is not decreased.
 - o If existing regular data would be replaced by future data due to replacement of the oldest data in record (wrap around) and MINDAY of regular data would not be maintained, the future data being written is truncated to preserve MINDAY of observed data.

3. Checks on future pointers:

- o Any existing data (regular or future) which extends beyond future data being written is deleted.
- o There can be only one future pointer in the record.
- o Future data between two existing blocks of regular data is set to missing and the latest future pointer is used.
- o If existing future data is written over by regular data the future pointer is moved to the end of the new regular data, and the remaining future data is retained.
- o If only future data is being written the future pointer is not updated.